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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,948	07/17/2003	Herman Dietrich Dierks JR.	AUS920030470US1	1548
35525 7590 02/06/2007 IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			EXAMINER PARK, ILWOO	
			ART UNIT 2182	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/621,948	DIERKS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ilwoo Park	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,9,12-14 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,9,12-14 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1, 6, 9, 14, and 17-20 are amended and claims 2, 3, 7, 8, 10, 11, 15, and 16 are canceled in response to the last office action. Chen et al and Webber et al were cited in the last office action. The following rejections now apply. Claims 1, 4-6, 9, 12-14, and 17-20 are presented for examination.

### *Response to Arguments*

2. Applicant's arguments filed 11/15/2006 have been fully considered but they are not persuasive. In the Remarks, Applicant argues in substance that a) claims 17 and 18 rejected under 35 U.S.C. 101 are statutory because a product embodied in a tangible computer usable medium and b) Chen does not teach "the amount of data to be transferred is in a frame and has a frame size" because a data transfer in Chen is not in the form of a frame with a frame size. However, the examiner respectfully disagrees.

For the point a), the examiner directs Applicant attention to page 18, lines 13-22 of the instant specification:

Examples of computer readable media include recordable-type media, such as a floppy disk, a hard disk drive, a RAM, CD-ROMs, DVD-ROMs, and transmission-type media, such as digital and analog communications links, wired or wireless communications links using transmission forms, such as, for example, radio frequency and light wave transmissions. The computer readable media may take the form of coded formats that are decoded for actual use in a particular data processing system.

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Claims do not disclose that the "computer readable medium" is tangible or not. The "computer readable medium" in the specification is not limited to tangible embodiments.

For the point b), Chen is discloses that a data transfer is in the form of a frame with a frame size [conformed to PCI system's inherent use of memory line sizes and boundaries, e.g., 32 bytes, during data transfers in col. 9, lines 27-30, col. 11, lines 12-15]. Chen further teaches the amount of data to be transferred is in a frame [e.g., packets in col. 7, lines 2-5] and has a frame size [e.g., NDIS packet descriptor (inherently having a packet length) in col. 8, line 65-col. 9, line 6].

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The claimed invention is directed to non-statutory subject matter. Claims 17 and 18 are directed to a computer program product in a computer readable medium. This claimed subject matter fails to produce a useful, concrete and tangible result. In view of Applicant's disclosure, specification page 18, lines 13-22, the computer readable medium is not limited to tangible embodiments; the computer readable medium includes transmission-type media , such as communication links, wired or wireless communication links, etc. As such, the claims are not limited to statutory subject matter and are therefore non-statutory.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4-6, 9, and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. [US 6,055,580].

As for claim 1, Chen et al teach a method in data processing system for transferring [col. 7, lines 62-65] data from a memory [e.g., main memory 104, cache 105] to a network adapter [network interface card 124], the method comprising:

receiving [col. 7, lines 62-65] a request to transfer data in the memory to a network adapter; and

setting a transfer size to align [col. 3, lines 21-25; col. 3, lines 42-45; col. 9, lines 43-59] the data with a cache line size if the amount of data to be transferred is unequal [col. 3, lines 17-21] to the cache line size, wherein an amount of data is less than or equal to the transfer size, and wherein the amount of data to be transferred is in a frame and has a frame size [conformed to PCI system's inherent use of memory line sizes and boundaries, e.g., 32 bytes, during data transfers in col. 9, lines 27-30, col. 11, lines 12-15 or packets in col. 7, lines 2-5 and NDIS packet descriptor (inherently having a packet length) in col. 8, line 65-col. 9, line 6].

6. As for claim 4, Chen et al teach the cache line size is  $2^n$ , wherein n is a positive integer [col. 9, lines 29-30].

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7. As for claim 5, Chen et al teach the data is transferred from the memory to the network adapter through a bridge chip [fig. 1].

8. As for claim 6, Chen et al teach a method in data processing system for transferring [col. 7, lines 62-65] data from a memory [e.g., main memory 104, cache 105] to a network adapter [network interface card 124], the method comprising:

identifying [col. 8, lines 48-54] a frame size for a transfer of the data from the memory to the network;

setting [col. 9, lines 49-51] a length equal to a cache line size;

if the frame size is divisible by a cache line size without a remainder, setting a valid data length equal to the length field [col. 3, lines 39-45]; and

if the frame size divided by the cache line size results in a remainder, setting a valid data length equal to the length field [col. 3, lines 17-23; col. 3, lines 39-45], wherein the length field is computed as  $\text{length field} = (\text{FLOOR}(\text{frame size}/\text{CLS}) + 1) * \text{CLS}$ , wherein CLS is the cache length size [e.g., 32 bytes =  $(\text{FLOOR}((2 \text{ bytes in portion 618 of fig. 6})/(32 \text{ bytes})) + 1) * (32 \text{ bytes})$ ].

9. As for claims 9 and 14, Chen et al teach a method for transferring data from a memory to a network adapter [*supra*]. Accordingly Chen et al teach the means for performing this method. The present claim is rejected under the same basis.

10. As for claims 12 and 13, Chen et al teach the method for transferring data from a memory to a network adapter [*supra*]. Therefore, the present claims are rejected under the same basis

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. [US 6,055,580] in view of Webber et al. [US 6,820,186 B2].

As for claim 17, Chen et al teach a computer program product in a computer readable medium for transferring data from a memory [e.g., main memory 104, cache 105] to a network adapter [network interface card 124], the computer program product comprising:

first instructions for receiving [col. 7, lines 62-65] a request to transfer data in the memory to a network adapter; and

second instructions for setting a transfer size to align [col. 3, lines 21-25; col. 3, lines 42-45; col. 9, lines 43-59] the data with a cache line size if the amount of data to be transferred is unequal [col. 3, lines 17-21] to the cache line size, wherein an amount of data is less than or equal to the transfer size, and wherein the amount of data to be transferred is in a frame and has a frame size [conformed to PCI system's inherent use of memory line sizes and boundaries, e.g., 32 bytes, during data transfers in col. 9, lines 27-30, col. 11, lines 12-15 or packets in col. 7, lines 2-5 and NDIS packet descriptor (inherently having a packet length) in col. 8, line 65-col. 9, line 6].

However, Chen et al do not explicitly disclose a valid length indicator is set to the amount of data wherein the network adapter outputs only the amount of data set by the valid length indicator after the data has been transferred to the network adapter.

Webber et al teach transferring data [col. 1, lines 5-19] aligned with a cache line size from a memory to a network adapter in order to build a packet payload to be transmitted on a network and further teach a valid length indicator [col. 2, lines 30-41] is set to the amount of data wherein the network adapter outputs only the amount of data set by the valid length indicator after the data has been transferred to the network adapter. At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the cited references in order to increase flexibility by providing a request beginning at arbitrary [Webber et al: col. 1, lines 5-19] location of a cache line rather than beginning at a starting address [Chen et al: col. 3, lines 8-11] of a cache line.

13. As for claim 18, Chen et al teach a computer program product in a computer for transferring data from a memory [e.g., main memory 104, cache 105] to a network adapter [network interface card 124], the computer program product comprising:

first instructions for identifying [col. 8, lines 48-54] a frame size for a transfer of the data from the memory to the network;

second instructions for setting [col. 9, lines 49-51] a length equal to a cache line size;

if the frame size is divisible by a cache line size without a remainder, setting a valid data length equal to the length field [col. 3, lines 39-45]; and



if the frame size divided by the cache line size results in a remainder, setting a valid data length equal to the length field [col. 3, lines 17-23; col. 3, lines 39-45], wherein the length field is computed as  $\text{length field} = (\text{FLOOR}(\text{frame size}/\text{CLS}) + 1) * \text{CLS}$ , wherein CLS is the cache length size [e.g., 32 bytes =  $(\text{FLOOR}((2 \text{ bytes in portion 618 of fig. 6})/(32 \text{ bytes})) + 1) * (32 \text{ bytes})$ ].for receiving [col. 7, lines 62-65] a request to transfer data in the memory to a network adapter.

However, Chen et al do not explicitly disclose third instructions for initiating a transfer of the data from the memory to the network adapter using the valid data length and the length field, wherein the network adapter only outputs data identified by the valid data length. a valid length indicator is set to the amount of data wherein the network adapter outputs only the amount of data set by the valid length indicator after the data has been transferred to the network adapter. Webber et al teach transferring data [col. 1, lines 5-19] aligned with a cache line size from a memory to a network adapter in order to build a packet payload to be transmitted on a network and further teach third instructions for initiating a transfer of the data from the memory to the network adapter using the valid data length and the length field [col. 2, lines 30-41] wherein the network adapter outputs only the amount of data set by the valid length indicator after the data has been transferred to the network adapter. At the time the invention was made, one of ordinary skill in the art would have been motivated to combine the cited references in order to increase flexibility by providing a request beginning at arbitrary [Webber et al: col. 1, lines 5-19] location of a cache line rather than beginning at a starting address [Chen et al: col. 3, lines 8-11] of a cache line.

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14. As for claims 19 and 20, Chen et al teach a method for transferring data from a memory to a network adapter [*supra*]. Therefore, Chen et al teach the server for performing this method. The present claims are rejected under the same basis.

### ***Conclusion***

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

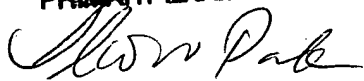
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ilwoo Park whose telephone number is (571) 272-4155. The examiner can normally be reached on Monday through Friday from 9:00 AM to 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**ILWOO PARK  
PRIMARY EXAMINER**

A handwritten signature in cursive script, appearing to read "Ilwoo Park", written over the printed name.

Ilwoo Park

February 1, 2007